

REMARKS

In the present Amendment, claims 1 and 6 have been amended to recite that one surface of the polycrystalline material contacts with the mask, and an opposing surface to the one surface of the polycrystalline material contacts with the semiconductor multilayer film. Support for the amendment is found, for example, in the description of Examples 4-6 and Figs. 4-6 of the specification. No new matter has been added, and entry of the Amendment to place the present application in condition for allowance is respectfully requested.

Claims 1, 2, 4, 6, 7, 9 and 11 are pending.

Claims 1, 2, 4, 6, 7, 9 and 11 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kim et al (US 2003/0067953) in view of Motoki et al (US 2003/0145783).

Applicants submit that this rejection should be withdrawn because Kim et al and Motoki et al do not disclose or render obvious the present invention, either alone or in combination.

Claims 1 and 6 as amended recite that the mask has a polycrystalline material deposited on a surface thereof, a part of the mask is not covered with the group III nitride semiconductor multilayer film, and one surface of the polycrystalline material contacts with the mask, and an opposing surface to the one surface of the polycrystalline material contacts with the semiconductor multilayer film. The semiconductor substrate of the present claims as amended has a ridge structure.

In contrast, the semiconductor laser diode of Kim et al has a buried hetero (BH) structure.

Specifically, in the present invention, the semiconductor multilayer film is formed after forming the polycrystalline material on the mask. Thus, the semiconductor substrate having a ridge structure as in Fig. 1 of Kim et al is provided. In this structure of the present invention, “a

part of the semiconductor multilayer film is formed on an upper surface of the polycrystalline material,” and “a part of the mask is not covered with said semiconductor multilayer film.”

In contrast, the light generating layer and the poly crystalline material (the current blocking layer 116) of Kim et al are simultaneously epitaxially grown through MOCVD ([0038]). Thus, the semiconductor laser diode of Kim et al has a buried heterostructure (BH) in which the semiconductor multilayer film is not formed on an upper surface of the polycrystalline material ([0046] and Fig. 3).

Accordingly, the structure of the presently claimed nitride semiconductor substrate is clearly different from the structure of the semiconductor laser diode of Kim et al.

Motoki et al is cited as teaching a group III nitride semiconductor substrate having a dislocation density in a vicinity of a surface thereof of $1 \times 10^7/\text{cm}^2$ or less ([0316]) and that voids are formed on a surface of a mask having a polycrystalline material ([0183], [0299], [0420] and [0427]). Motoki et al does not make up for the deficiencies of Kim et al.

The presently claimed semiconductor substrate having the claimed structure is not taught or suggested by any of the cited references. According to the presently claimed structure, dislocations present in the laser structure layer above the mask can be reduced.

In view of the above, the present claims are not obvious and are patentable over Kim et al and Motoki et al, either alone or in combination. Reconsideration and withdrawal of the §103(a) rejection based on Kim et al in view of Motoki et al are respectfully requested.

Allowance is respectfully requested. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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